



U.S. ENVIRONMENTAL PROTECTION AGENCY

Office of Pesticide Programs  
Registration Division (7505P)  
1200 Pennsylvania Ave., N.W.  
Washington, D.C. 20460

EPA Reg. Number:

74530-80

Date of Issuance:

1/26/18

NOTICE OF PESTICIDE:

Registration  
 Reregistration  
(under FIFRA, as amended)

Term of Issuance:

Conditional

Name of Pesticide Product:

ZONE ASSIST

Name and Address of Registrant (include ZIP Code):

Bert Volger, Ph.D.  
Helm Agro USA, Inc.  
401 E. Jackson St. Suite 1400  
Tampa, FL 33602

**Note:** Changes in labeling differing in substance from that accepted in connection with this registration must be submitted to and accepted by the Registration Division prior to use of the label in commerce. In any correspondence on this product always refer to the above EPA registration number.

On the basis of information furnished by the registrant, the above named pesticide is hereby registered under the Federal Insecticide, Fungicide and Rodenticide Act.

Registration is in no way to be construed as an endorsement or recommendation of this product by the Agency. In order to protect health and the environment, the Administrator, on his motion, may at any time suspend or cancel the registration of a pesticide in accordance with the Act. The acceptance of any name in connection with the registration of a product under this Act is not to be construed as giving the registrant a right to exclusive use of the name or to its use if it has been covered by others.

This product is conditionally registered in accordance with FIFRA section 3(c)(7)(A). You must comply with the following conditions:

1. Submit and/or cite all data required for registration/reregistration/registration review of your product under FIFRA when the Agency requires all registrants of similar products to submit such data.

Signature of Approving Official:

Reuben Baris, Acting Product Manager 23  
Herbicide Branch, Registration Division (7505P)

Date:

1/26/18

2. You are required to comply with the data requirements described in the DCI identified below:
  - a. Sulfentrazone GDCI-129081-883
  - b. Imazethapyr GDCI-128922-1549

You must comply with all of the data requirements within the established deadlines. If you have questions about the Generic DCI listed above, you may contact the Chemical Review Manager in the Pesticide Reevaluation Division: <http://iaspub.epa.gov/apex/pesticides/f?p=chemicalsearch:1>

3. The data requirements for storage stability and corrosion characteristics (Guidelines 830.6317 and 830.6320) are not satisfied. A one year study is required to satisfy these data requirements. You have 18 months from the date of registration to provide these data.
4. Make the following label changes before you release the product for shipment:
  - Revise the EPA Registration Number to read, “EPA Reg. No. 74530-80.”
5. Submit one copy of the final printed label for the record before you release the product for shipment.

Should you wish to add/retain a reference to the company’s website on your label, then please be aware that the website becomes labeling under the Federal Insecticide Fungicide and Rodenticide Act and is subject to review by the Agency. If the website is false or misleading, the product would be misbranded and unlawful to sell or distribute under FIFRA section 12(a)(1)(E). 40 CFR 156.10(a)(5) list examples of statements EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product’s label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the Agency find or if it is brought to our attention that a website contains false or misleading statements or claims substantially differing from the EPA approved registration, the website will be referred to the EPA’s Office of Enforcement and Compliance.

If you fail to satisfy these data requirements, EPA will consider appropriate regulatory action including, among other things, cancellation under FIFRA section 6(e). Your release for shipment of the product constitutes acceptance of these conditions. A stamped copy of the label is enclosed for your records. Please also note that the record for this product currently contains the following CSFs:

- Basic CSF dated 03/08/2017

If you have any questions, please contact Maggie Rudick by phone at 703-347-0257, or via email at [rudick.maggie@epa.gov](mailto:rudick.maggie@epa.gov).

Enclosure

## ZONE ASSIST

**GROUP 2 14 HERBICIDE**

Active Ingredient:	% By Wt.
Sulfentrazone .....	33.33%
Imazethapyr .....	6.67%
<b>Other Ingredients:</b> .....	<b>60.00%</b>
<b>TOTAL</b> .....	<b>100.00%</b>

\*Contains 4.0 lbs. a.i. per gallon

Consisting of 3.33 lbs. a.i. of Sulfentrazone and 0.67 lb. a.i. of Imazethapyr per gallon

**EPA Reg. No. 74530-xxx**

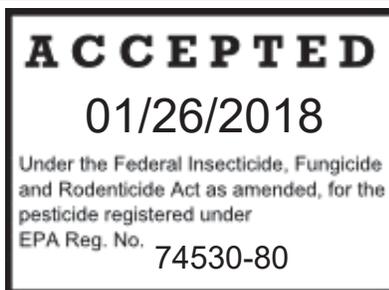
**EPA Est. No.** \_\_\_\_\_

**Net Content:** \_\_\_\_\_

## KEEP OUT OF REACH OF CHILDREN CAUTION

**See label booklet for First Aid, precautionary Statements and  
Directions for Use including Storage and Disposal**

<b>FIRST AID</b>	
<b>If Swallowed</b>	<ul style="list-style-type: none"> <li>Call a poison control center or doctor immediately for treatment advice.</li> <li>Have person sip a glass of water if able to swallow.</li> <li>DO NOT induce vomiting unless told to do so by the poison control center or doctor.</li> <li>DO NOT give anything to an unconscious person.</li> </ul>
<b>If on Skin or Clothing</b>	<ul style="list-style-type: none"> <li>Take off contaminated clothing.</li> <li>Rinse skin immediately with plenty of water for 15-20 minutes.</li> <li>Call a poison control center or doctor for treatment advice.</li> </ul>
<p><b>HOT LINE:</b> Have the product container or label with you when calling a poison control center or doctor, or going for treatment. For Chemical Emergency Assistance (Spill, Leak, Fire or Accident) call CHEMTREC at 1-800-424-9300.</p>	



## PRECAUTIONARY STATEMENTS

### HAZARDS TO HUMANS AND DOMESTIC ANIMALS

**CAUTION:** Harmful if swallowed. Harmful if absorbed through skin. Avoid contact with skin, eyes or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before reuse.

### PERSONAL PROTECTIVE EQUIPMENT (PPE)

#### Applicators and Other Handlers Must Wear:

- A long-sleeved shirt and long pants
- Chemical-resistant gloves made of any waterproof material such as Barrier Laminate, Butyl Rubber  $\geq$  14 mils, Nitrile Rubber  $\geq$  14 mils, Neoprene Rubber  $\geq$  14 mils, Nitrile Rubber  $\geq$  14 mils, Polyvinyl Chloride (PVC)  $\geq$  14 mils or Viton<sup>®</sup>  $\geq$  14 mils
- Shoes plus socks.

### USER SAFETY REQUIREMENTS

If clothing and other absorbent materials have been drenched or heavily contaminated with this product discard and **DO NOT** reuse them. Follow manufacturer's instructions for cleaning and maintaining PPE. If no such instructions for washables exists, use detergent and hot water. Keep and wash PPE separately from other laundry.

### USER SAFETY RECOMMENDATIONS

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

### ENVIRONMENTAL HAZARDS

This pesticide is toxic to marine/estuarine invertebrates. **DO NOT** apply directly to water or to areas where surface water is present or to intertidal areas below the mean high water mark. Drift and runoff may be hazardous to terrestrial and aquatic plants adjacent to treated areas. **DO NOT** contaminate water when disposing of equipment washwaters or rinsate.

**DO NOT use on coarse soils classified as sand containing less than 1% organic matter.**

#### Surface Water Advisory:

This pesticide can contaminate surface water through spray drift and under some conditions, may have a high potential for runoff into surface water (primarily via dissolution in runoff water), for several to many months post-application. Areas prone to contamination include:

- Poorly draining or wet soils with readily visible slopes toward adjacent surface waters
- Frequently flooded areas
- Areas overlying extremely shallow groundwater
- Areas with in-field canals or ditches that drain to surface water
- Areas not separated from adjacent surface waters with vegetated filter strips
- Areas over-lying tile drainage systems that drain to surface waters.

#### Groundwater Advisory:

This pesticide is known to leach through soil into groundwater under certain conditions as a result of label use. Groundwater contamination may result if this product is used in areas where the water table is shallow or where soils are permeable.

## CHEMICAL/PHYSICAL HAZARDS

**DO NOT** store or use near heat or open flame.

## DIRECTIONS FOR USE

**It is a violation of Federal Law to use this product in a manner inconsistent with its labeling.**

Read all Directions for Use carefully before applying.

**DO NOT** apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application.

For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

### AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard 40 CFR Part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted- entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

**DO NOT enter or allow worker entry into treated areas during the restricted entry interval (REI) of 12 hours.** PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:

- coveralls over long-sleeved shirt and long pants
- chemical-resistant gloves made of any waterproof material such as polyethylene or polyvinyl chloride.
- shoes plus socks.

### RESISTANCE MANAGEMENT

The development of herbicide resistance is well understood, however, it is not easily predicted. When herbicides that affect the same biological site of action are used repeatedly over several years to control the same weed species in the same field, naturally-occurring resistant biotypes may survive a correctly applied herbicide treatment, propagate, and become dominant in that field. Adequate control of these resistant weed biotypes cannot be expected. If weed control is unsatisfactory, it may be necessary to retreat the problem area using a product affecting a different site of action.

Herbicides should be used in conjunction with the resistance management strategies in the area to better manage herbicide resistance through delaying the proliferation and possible dominance of herbicide resistant weed biotypes. It may be necessary to change cultural practices within and between crop seasons such as using a combination of tillage, retreatment, tank-mix partners and/or sequential herbicide applications that have a different site of action. Weed escapes that are allowed to go to seed will promote the spread of resistant biotypes. It is advisable to keep accurate records of pesticides applied to individual fields to help obtain information on the spread and dispersal of resistant biotypes.

Consult your agricultural dealer, consultant, applicator, and/or appropriate state agricultural extension service representative for specific alternative cultural practices or herbicide recommendations available in your area.

If herbicide resistance develops in the area to Group 2 or 14 Herbicides, this product may not continue to provide sufficient levels of weed control. If the reduced levels of control cannot be attributed to improper application techniques, improper use rates, improper application timing, unfavorable weather conditions or abnormally high weed pressure, a resistant strain of weeds may have developed. To reduce the potential for weed resistance use this product in a rotation program with other classes of chemistry and modes of action.

Always apply this product at the recommended rates and in accordance with the use directions. **DO NOT** use less than recommended label rates alone or in tank mixtures. **DO NOT** use reduced rates of the tank mix partner. For optimum performance, scout fields carefully before application for weed identification and growth stage. Begin applications before weeds emerge or when weeds are small. It is recommended that fields be scouted after application to look for poor performance or possible resistance. If resistance is suspected, report herbicide failure to local extension specialists, certified crop advisors, and/or registrants.

## INSTRUCTIONS AND INFORMATION

### PRODUCT INFORMATION

ZONE ASSIST is a soluble concentrate designed to be mixed with water, liquid fertilizer or mixtures of water and liquid fertilizer. It is to be sprayed preemergence or preplant incorporated in soybeans and peanuts. When applied according to instructions on this label, ZONE ASSIST will control broadleaf and sedge weeds on this label. Additionally, ZONE ASSIST will provide grass suppression.

ZONE ASSIST is taken up by weed roots and shoots. Rainfall (or irrigation) is required to activate preemergence and preplant incorporated applications of ZONE ASSIST. The amount of rainfall (or irrigation) needed to activate ZONE ASSIST following application depends on existing soil moisture, organic matter content and soil texture. Erratic weed control will result unless ZONE ASSIST is activated by 0.5 to 1.0 inch of rainfall (or irrigation). If 0.5 to 1.0 inch of rainfall (or irrigation) is not received within 7 to 10 days after ZONE ASSIST application, a shallow cultivation may be needed to aid in activation to obtain desired weed control. When sufficient moisture is received after dry conditions, ZONE ASSIST herbicide will control susceptible germinating weeds. Under extended periods of dry weather, adequate weed control may not be achieved. Activity on emerged weeds depends on weed species and depth of the root system in the soil. ZONE ASSIST applications must be made before crop seed germination to prevent injury to the emerging crop seedlings. If applications are delayed after planting, injury may occur if seeds are germinating, or if they are located near the soil surface.

ZONE ASSIST exhibits excellent crop safety. Factors such as poor growing conditions, excessive moisture, cool temperatures, soil compaction or the presence of seedling pathogens may affect seedling vigor. When these conditions are present, the active ingredients in ZONE ASSIST, like other soil-applied herbicides, may contribute to crop response. Such early symptoms are short-lived. Observe all label instructions, crop restrictions, mixing directions, application precautions, replanting directions, rotational crop guidelines and other label information of each product when tank mixing with ZONE ASSIST.

### APPLICATION GUIDELINES

#### Ground Application

- Apply ZONE ASSIST using a conventional low pressure herbicide boom sprayer equipped with suitable nozzles and screens.
- Use properly calibrated nozzles (10 to 40 psi) and screens and strainers no finer than 50 mesh.

- Apply using 10 to 40 gallons of spray solution per acre.
- Do not exceed 40 psi spray pressure unless required by the spray nozzle manufacturer.
- Water or liquid fertilizer solutions may be used as the carrier when applied alone or in tank mixtures with other registered herbicides.
- A jar test should be used to determine the compatibility of ZONE ASSIST and the fertilizer solution.
- Apply ZONE ASSIST spray mixture immediately after mixing.
- Agitation should be continuous until all spray mixture has been applied.
- Avoid swath overlaps.
- Always turn off spray booms while turning, slowing or stopping to avoid over application.
- DO NOT allow ZONE ASSIST spray mixtures to sit overnight to prevent settling of product which may result in difficulty of re-suspension of product.
- To avoid injury to sensitive crops, drain and thoroughly clean spray equipment using instructions below.
- Avoid all direct, and/or indirect spray contact with non-target plants.
- Allow adequate distance between target area and desirable plants to minimize exposure.
- DO NOT apply near desirable vegetation.

#### **Aerial Application**

- ZONE ASSIST may be applied by air using properly calibrated nozzle types and arrangements that will provide optimum coverage while producing minimal amounts of fine droplets.
- Apply in sufficient spray volume to achieve adequate coverage.
- Use a minimum of five (5) gallons of finished spray per acre.
- DO NOT apply when wind speed favors drift beyond the targeted treatment area.

#### **Runoff and Wind Erosion Precautions**

- DO NOT make applications when conditions favor runoff or wind erosion of soil containing ZONE ASSIST to non-target areas.
- To prevent off-site movement due to runoff or wind erosion:
  - DO NOT treat powdery dry or light sandy soils when conditions favor wind erosion. When these conditions occur, allow the soil surface to be settled by rainfall or irrigation.
  - DO NOT apply to impervious substrates such as paved or highly compacted surfaces or frozen or snow covered ground.
  - DO NOT apply to soils when saturated with water.
  - DO NOT use tail-water from the 1<sup>st</sup> flood or furrow irrigation of treated field to treat non-target crops unless at least ½ inch of rainfall (irrigation) has occurred between application and the first irrigation.

### **MIXING AND LOADING INSTRUCTIONS**

#### **ZONE ASSIST – Alone**

- Determine the ZONE ASSIST use rate from the **Use Rate** section of this label.
- Fill the spray tank with approximately one-half of the volume of water needed for the acreage being treated.
- Add required amount of ZONE ASSIST for acreage being treated by measuring directly into the spray tank with the agitator system operating.
- Allow the product to fully disperse.
- Complete the addition of required spray water.
- Maintain agitation during filling, mixing and application.
- Apply ZONE ASSIST spray mixture immediately after mixing.

#### **ZONE ASSIST – Tankmix Combinations**

- Determine the ZONE ASSIST use rate from the **Use Rate** section of this label.
- Read and follow all use directions, precaution and restrictions on all product labels.

- Determine product compatibility using Mixture Compatibility Testing in jar test, before large volume mixing occurs.
- If the mixture is compatible in the jar test, prepare the tank mixture as follows:
- Fill the spray tank with approximately one-half of the volume of water needed for the acreage being treated.
- Add required amount of ZONE ASSIST for acreage being treated by measuring directly into the spray tank with the agitator system operating.
- Allow the product to fully disperse.
- Then add the recommended dry formulations (WP's, DF's) followed by suspensions (e.g., F's, SC's) and finally liquids (e.g., EC's).
- After each addition, allow time for complete mixing and dispersion - adding water as necessary.
- Complete the addition of spray water.
- Maintain agitation during filling, mixing and application.
- Apply ZONE ASSIST tank mixture immediately after mixing.

### Fertilizer Spray Mixtures

Unless use directions specifically prohibit the use of ZONE ASSIST, the product can be applied alone or in recommended tank mixtures in combination with fertilizer solutions. Use the following procedure to test the compatibility of small quantities before large volume mixing occurs:

- Add 1 pint of fertilizer solution to a quart jar.
- Add the appropriate amount of herbicide(s) based on the table below.
- When more than one product is being used, add each separately using the following sequence: dry formulations (e.g., WP's, DF's) followed by liquid suspensions (e.g., F's) next and finally liquids (e.g., EC's)

Mixture Compatibility Testing		
Herbicide Formulation	Herbicide Field Use Rate	Amount Herbicide Added Per Pint
Wettable Powders (WP) or Dry Flowables (DF)	0.5 pound	0.75 teaspoon
	1.0 pound	1.5 teaspoon
	2.0 pound	3.0 teaspoon
	3.0 pound	4.5 teaspoon
Emulsified Concentrates (EC)	1.0 pint	0.5 teaspoon
Liquid Flowables (F)	1.0 quart	1.0 teaspoon
	2.0 quarts	2.0 teaspoons
	3.0 quarts	3.0 teaspoons
Based on 25 gallons per acre spray volume, adjust liquid fertilizer quantity for lower and higher spray volumes.		

- Close jar.
- Shake well.
- Observe mixture immediately after shaking, 5 and 30 minutes after shaking.
- If herbicide/fertilizer mixture remains mixed or can be remixed readily - does not permanently separate, foam, gel, become lumpy, etc. - the mixture is compatible and can be mixed in full volumes and sprayed.
- If jar test indicates compatibility, prepare spray by adding fertilizer solution to the tank first, then follow directions below.

### ZONE ASSIST - Applied Alone with Liquid Fertilizer

- Premix ZONE ASSIST in clean water to form slurry.
- Use a minimum of one gallon of water for each container of ZONE ASSIST.
- Fill spray tank one-half full with fertilizer solution.
- Add ZONE ASSIST slurry to spray tank with agitator system operating by pouring through a 20-35 mesh screen.
- Agitate until slurry is completely dissolved.
- Rinse container used for slurring.
- Add rinsate to the spray tank.
- Complete filling the sprayer tank with liquid fertilizer.
- Maintain agitation during filling, mixing and application.
- Use ZONE ASSIST spray mixture immediately after mixing.

#### **ZONE ASSIST - Applied in Tank Mix Combinations with Liquid Fertilizers**

- Premix ZONE ASSIST in clean water to form slurry.
- Use a minimum of one gallon of water for each container of ZONE ASSIST.
- Fill spray tank one-half full with fertilizer solution.
- Add ZONE ASSIST slurry to spray tank with agitator system operating by pouring through a 20-35 mesh screen.
- Agitate until slurry is completely dissolved.
- Rinse container used for slurring.
- Add rinsate to the spray tank.
- Dilute the individual tank mix partners with sufficient water to form a free flowing mixture.
- Add to spray tank of fertilizer using the following order – slurry of dry formulations (WP's, DF's) followed by dilute liquid formulations (e.g., EC's).
- After each addition, allow time for complete mixing and dispersion - adding water as necessary.
- Complete the addition of liquid fertilizer.
- Maintain agitation during filling, mixing and application.
- Apply ZONE ASSIST tank mixture immediately after mixing.

#### **SPRAYER CLEANOUT**

Residues left in mixing equipment, spray tanks, hoses, spray booms and nozzles can cause crop effects, if they are not properly cleaned. After applying ZONE ASSIST alone and in tank-mixtures and before using sprayer equipment for any other applications, the sprayer must be thoroughly cleaned using the following procedure.

1. Drain sprayer tank, hoses, and spray boom and thoroughly rinse the inside of the sprayer tank with clean water to remove sediment and residues.
2. Thoroughly flush sprayer hoses, boom and nozzles with clean water.
3. Fill the tank 1/2 full with clean water, and add appropriate detergent or ammonia (follow manufacturer's directions for use).
4. Fill the tank full and operate the sprayer for 15 minutes to flush hoses, boom, and nozzles.
5. Leave the cleaning solution in the spray tank, hoses, spray booms and spray nozzles overnight or during storage for convenient and thorough cleaning of the sprayer.
6. Before using the sprayer, drain the spray system.
7. Rinse the tank with clean water and flush through the hoses, boom, and nozzles.
8. Remove and clean spray tips and screens separately with the tank mix cleaner or ammonia solution.
9. Dispose of all cleaning solution and rinsate in accordance with Federal, State and local regulations and guidelines.
10. DO NOT drain or flush equipment on or near desirable trees or plants.
11. DO NOT contaminate any body of water including irrigation water that may be used on other crops.

12. If spray system is not cleaned adequately and small quantities of ZONE ASSIST remain in the system, they may be released during subsequent applications potentially causing effects to certain crops and other vegetation.
13. Helm Agro accepts no liability for any effects due to inadequately cleaned equipment.

#### HANDLING INSTRUCTIONS AT MIXING SITE

DO NOT mix or load ZONE ASSIST within 50 feet of wells - including abandoned wells and drainage wells, perennial or intermittent streams and rivers, natural or impounded lakes and reservoirs, and sinkholes. This setback does not apply to properly capped or plugged abandoned wells and does not apply to impervious pads or properly diked mixing/loading areas.

Procedures that involve mixing, loading, rinsing, or washing of this product into or from pesticide handling or application equipment or containers within 50 feet of any well are prohibited unless conducted on an impervious pad constructed to withstand the weight of the heaviest load that may be positioned on or moved across the pad. The impervious pad shall be designed and maintained to contain any product spills or equipment leaks, container or equipment rinse or washwater, and rainwater that may fall on the pad. The impervious pad must be self-contained and surface water must not be allowed to either flow over or from the pad. The pad shall be sloped to facilitate material removal. An unroofed pad shall be of sufficient capacity to contain at a minimum 110% of the capacity of the largest pesticide container or application equipment on the pad. A pad that is covered by a roof of sufficient size to completely exclude precipitation from contact with the pad shall have a minimum containment capacity of 100% of the capacity of the largest pesticide container or application equipment on the pad. Containment capacities as described above shall be maintained at all times. The above specific minimum containment capacities **DO NOT** apply to vehicles when delivering pesticide shipments to the mixing/loading site. States may have in effect additional requirements regarding wellhead setbacks and operational containment.

Use product in a manner that will prevent back siphoning into wells and prevents spill or improper disposal of excess pesticide, spray mixtures or rinsates.

DO NOT apply through irrigation systems.

DO NOT use flood irrigation to apply or activate ZONE ASSIST.

#### CROP ROTATIONAL RESTRICTIONS

The minimum interval in months from the time of the last ZONE ASSIST application until ZONE ASSIST treated soil can be replanted to various crops is listed in the following Table. If ZONE ASSIST is tank mixed with another product, refer to the partner label for recropping instructions and follow the directions that are most restrictive.

For all other crops not listed below, the rotational interval is a minimum of 30 months with a representative bioassay of the field being completed with the rotational crop.

**Crop Rotational Restrictions Table\***

Crop	Interval in Months
Alfalfa	12
Barley	9.5
Cabbage	40  (18 months for the States of AL, DE, GA, IN, KY, MD, NJ, NC, PA, SC and VA)
Canola	40 with bioassay**
Crambe	40 with bioassay**
Chickpea	10
Corn, Field	10, 4***

EPA comments incorporated

Corn, Pop	18, 10****
Corn, Seed	10*****
Corn, Sweet	18, 10 ****
Cotton	18
Dry Beans	10
Dry Peas	10
Flax	26
Lettuce	18
Lima beans	4
Oats	18
Potatoes	26
Rice	40
Rye	4 (18 for the states of MN and ND North of Hwy # 210)
Safflower	18
Snap beans	10
Sorghum	18
Soybeans	Anytime
Succulent peas	10
Sugar Beets	40 with bioassay**
Sunflower	18
Sweet Potatoes	26 (18 months for the states of AL, DE, GA, IN, KY, MD, NJ, NC, PA, SC and VA)
Tobacco	9.5
Wheat	4

\*For all other crops not listed, the rotation interval is a minimum of 40 months.

\*\* A field bioassay consists of a test strip of the intended crop planted across the previously treated field and grown to maturity. Test strip should include low spots, knolls, and soil variations such as pH and type. If injury does not occur in the test strip the crop may be planted the following year.

\*\*\* IR, Clearfield, and IMR corn hybrids may be planted 4 months after ZONE ASSIST application at 4 ounces or less.

\*\*\*\*Sweet corn (Processed only) and popcorn may be planted 10 months after ZONE ASSIST was applied at 6 oz/A or less.

\*\*\*\*\*Hybrid Corn Seed Production - Growers should contact the seed company for information and recommendations regarding the planting of corn grown for seed in field treated with ZONE ASSIST the previous year. Helm Agro will not accept responsibility for any crop injury on field corn grown for seed following an application of ZONE ASSIST.

### REPLANTING INSTRUCTIONS

If initial planting of labeled crop fails to produce a stand, fields treated with ZONE ASSIST may be replanted with labeled crop. If ZONE ASSIST is being tankmixed with another labeled product, refer to the replant instructions for all products being used. **DO NOT** plant treated fields with any crop at intervals that are inconsistent with the Rotational Crop Guidelines on this label. When a tankmix is used, refer to the product's label for any additional replant instructions.

### WEEDS CONTROLLED

When ZONE ASSIST is applied as directed on this label, it will provide control or suppression of the following broadleaf, grass and sedge weeds.

Common Name	Scientific Name
<b>Broadleaves and Sedges</b>	
Amaranth, Palmer	<i>Amaranthus palmeri</i>
Amaranth, spiny	<i>Amaranthus spinosus</i>

Amaranth, spleen	<i>Amaranthus dubius</i>
Anoda, spurred	<i>Anoda cristata</i>
Beggarweed, Florida	<i>Desmodium tortuosum</i>
Buckwheat, wild	<i>Polygonum convolvulus</i>
Carpetweed	<i>Mullugo verticillata</i>
Catchweed bedstraw	<i>Galium aparine</i>
Cocklebur, common *	<i>Xanthium pennsylvanicum</i>
Copperleaf, hophornbeam	<i>Acalypha ostryeafolia</i>
Copperleaf, Virginia	<i>Acalypha virginica</i>
Daisy, American	<i>Eclipta alba</i>
Eclipta	<i>Eclipta prostrata</i>
Filaree, redstem	<i>Erodium cicutarium</i>
Galinsoga, Hairy	<i>Galinsoga ciliata</i>
Golden crownbeard	<i>Verbesina encelioides</i>
Groundcherry, Clammy (seedling)	<i>Physalis heterophylla</i>
Groundcherry, cutleaf	<i>Physalis angulata</i>
Jimsonweed	<i>Datura stramonium</i>
Kochia	<i>Kochia scoparia</i>
Ladysthumb	<i>Polygonum persicaria</i>
Lambsquarters, common	<i>Chenopodium album</i>
Mallow, venice	<i>Hibiscus trionum</i>
Marshelder	<i>Iva xanthifolia</i>
Morningglory, entireleaf	<i>Ipomoea hederacea integruscula</i>
Morningglory, ivyleaf	<i>Ipomoea hederacea hederacea</i>
Morningglory, palmleaf	<i>Ipomoea wrightii</i>
Morningglory, pitted	<i>Ipomoea lacunosa</i>
Morningglory, purple	<i>Ipomoea turbinata</i>
Morningglory, red	<i>Ipomoea, coccinea L.</i>
Morningglory, scarlet	<i>Ipomoea coccinea</i>
Morningglory, smallflower	<i>Jacquemontia tamnifolia</i>
Morningglory, tall	<i>Ipomoea, purpurea</i>
Mustard, black	<i>Brassica nigra</i>
Mustard, tumble	<i>Sisymbrium altissimum</i>
Mustard, wild	<i>Brassica kaber</i>
Nightshade, black	<i>Solanum nigrum</i>
Nightshade, Eastern black	<i>Solanum ptycanthum</i>
Nightshade, hairy	<i>Solanum sarrachoides</i>
Nutsedge, purple	<i>Cyperus rotundus</i>
Nutsedge, yellow	<i>Cyperus esculentus</i>
Pigweed, redroot	<i>Amaranthus retroflexus</i>
Pigweed, smooth	<i>Amaranthus hybridus</i>
Poinsettia, wild	<i>Euphorbia heterophylla</i>
Poorjoe	<i>Diodia teres</i>
Purslane, common	<i>Portulaca oleracea</i>
Pusley, Florida	<i>Richardia scabra</i>
Redmaids, rockpurslane	<i>Calandrinia ciliata</i>
Redweed	<i>Melochia corchorifolia</i>
Sedge, annual	<i>Carex spp.</i>
Senna, coffee	<i>Cassia occidentalis</i>
Sheperdspurse	<i>Capsella bursa-pastoris</i>
Sida, prickly (Teaweed)	<i>Sida spinosa</i>
Sida, Southern	<i>Sida acuta</i>
Smartweed, Pennsylvania	<i>Polygonum pensylvanicum</i>

Spurge, prostrate	<i>Euphorbia humistrata</i>
Spurge, spotted	<i>Euphorbia maculata</i>
Starbur, bristly	<i>Acanthospermum hispidum</i>
Thistle, Russian	<i>Salsola kali</i>
Velvetleaf	<i>Abutilon theophrasti</i>
Waterhemp, common	<i>Amaranthus rudis</i>
Waterhemp, tall	<i>Amaranthus tuberculatos</i>
*Will not control ALS resistant biotypes of these weed species.	
<b>Grasses – Suppression Only</b>	
When ZONE ASSIST is used for complete grass control, one of the following methods will be required:	
<ul style="list-style-type: none"> <li>- Tank mixing with grass soil applied herbicides</li> <li>- Postemergence grass herbicides</li> <li>- or mechanical cultivation</li> </ul>	
Foxtail, bristly	<i>Setaria verticillata</i>
Foxtail, giant	<i>Setaria faberi</i>
Foxtail, green	<i>Setaria viridis</i>
Foxtail, yellow	<i>Setaria lutescens</i>
Johnsongrass, seedling*	<i>Sorghum halapenses</i>
Shattercane	<i>Sorghum bicolor</i>
Fall panicum*	<i>Panicum dichotomiflorum</i>
*Will not control ALS resistant biotypes of these weed species.	

### MANAGEMENT OF SPRAY DRIFT

AVOIDING SPRAY DRIFT IS THE RESPONSIBILITY OF THE APPLICATOR AND THE GROWER.

Factors relating to the potential for spray drift are many. The most common is the interaction of many equipment and weather-related factors that can determine potential spray drift. The applicator and the grower are responsible for considering all these factors when making decisions. Ultimately it is the applicator that is responsible for taking all these factors into consideration when making decisions on applications.

The following drift management requirements must be followed to avoid off-target movement from applications.

If States and local governments have more stringent regulations, they must be observed.

### IMPORTANCE OF DROPLET SIZE

APPLYING LARGER DROPLETS REDUCES SPRAY DRIFT POTENTIAL, BUT IT WILL NOT PREVENT DRIFT IF APPLICATIONS ARE MADE IMPROPERLY OR MADE UNDER UNFAVORABLE ENVIRONMENTAL CONDITIONS. This is the best strategy to manage the potential for spray drift and is based upon larger droplets to provide better coverage and control. Factors that also can affect an applicator's decision on balancing drift control and coverage are: the presence of non-targeted crops nearby – environmental conditions – and pest pressures.

### Controlling Droplet Size- General Techniques

- Select nozzles and application pressure that deliver medium to coarse or larger spray droplets as indicated in the nozzle manufacturer's recommendations and in accordance with ASABE\* Standard S-572.
- Select coarse to very coarse droplet size when this product is used as a preemergent/preplant application.
- Applicators may spray only when wind speed is between 3 and 10 mph.
- Do not apply as spray droplets smaller than medium to coarse (defined by the ASABE\* standard).

**Volume** - Nozzles with higher rated flows produce larger droplets. Use high flow rate nozzles to apply the greatest practical spray volume.

### **Volume Mean Diameter (VMD)**

VMD is the expression of droplet size of a spray application cloud. The VMD value means that 50% of the droplets are larger than the expressed value and 50% of the droplets are smaller than the expressed value. Optimum spray clouds should be 450 microns with fewer than 10% of the droplets being 200 microns or smaller.

**Pressure** - DO NOT exceed nozzle manufacturer's recommended pressures. For many nozzle types, lower pressure produces larger droplets. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.

**Nozzle Type** – Use a nozzle that is designed for the intended application. With many nozzle types narrower spray angles produce larger droplets. Consider using low drift nozzles.

**Number of Nozzles** – Use the minimum number of nozzles that provide uniform coverage.

**Application Height** - Set the boom at the lowest labeled height (if specified) to provide uniform coverage thereby reducing exposure of droplets to evaporation and wind.

**Swath Adjustment** – When aerial applications are made with a crosswind, the swath will be displaced downwind. Therefore, on the upwind and downwind edges of the field, the applicator must compensate for this displacement by the path of the aircraft upwind. Swath adjustment or offset distance should increase when conditions favor increased drift potential (higher winds, smaller droplets, etc.).

### **EFFECTS ON DRIFT POTENTIAL BY – WIND – TEMPERATURE AND HUMIDITY TEMPERATURE INVERSIONS**

#### **Wind**

Drift potential increases at wind speeds of more than 10 mph or less than 3 mph (due to inversion potential). However, many factors, including droplet size and equipment type determine drift potential at any given wind speed. AVOID GUSTY OR WINDLESS CONDITIONS. Application should be avoided below 3 mph due to variable wind direction and high inversion potential. Every applicator should be familiar with local wind patterns and how they may potentially affect spray drift.

#### **TEMPERATURE INVERSIONS**

Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain close to the ground and move laterally in a concentrated cloud. Drift potential is high during a temperature inversion. Temperature inversions are common on nights with limited cloud cover and light to no wind and are characterized by increasing temperature with altitude. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

#### **TEMPERATURE AND HUMIDITY**

When making applications in hot and dry conditions, set equipment to produce larger droplets to reduce effects of evaporation. Droplet evaporation is most severe when conditions are both hot and dry.

#### **SENSITIVE AREAS**

The pesticide should only be applied when the wind is blowing away from sensitive areas (e.g. residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops).

## DRY SHELLED BEANS AND PEAS

Navy, Great Northern, Red Kidney, Black Turtle, Cranberry, Pinto, Lima and small white type dry beans Adzuki, Lentils, White Lupins, Chickpeas (garbanzo Beans) Dry Edible Peas, English and Southern Peas.

For use in the states east of and including CO, ND, NM, SD and WY (except the states east of and including CT, MA and VT).

ZONE ASSIST may be used on dry edible peas, lentils, chickpeas, and lima beans in ID, MT, NV, OR, UT, and WA.

ZONE ASSIT may be used on chickpeas in AZ.

### Use Rates

ZONE ASSIST Use Rates for Dry Shelled Beans and Peas Fall or Spring Early Preplant, Preemergence, and Preplant Incorporation Applications			
Broadcast rate	Fluid Ounces of ZONE ASSIST per Acre		
	Soil Texture		
% Organic Matter	Coarse	Medium	Fine
<1.5	2.75 – 3.6	3.6 – 5.4	3.6 – 5.4
1.5 – 3.0	3.6 – 5.4	4.5 – 6.0	6.0
>3.0	4.5 – 6.0	6.0	6.0
Coarse = Sand, Loamy Sand, Sandy Loam Medium = Sandy Clay Loam, Sandy Clay, Loam, Silt Loam, Silt Fine = Silty Clay Loam, Silty Clay, Clay Loam, Clay			
Use higher rates for soils with pH less than 7.0 and lower rates for soils with pH greater than 7.0 within the given rate ranges in this table.			
ZONE ASSIST may be tank mixed with other herbicides registered for use in peanuts. Observe all precautions, instructions and rotational cropping guidelines of each product's label when tank mixing, including all references to potential carryover and crop injury warnings or restrictions. It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.			

### Early Preplant and Fall Applications

ZONE ASSIST may be applied in the fall as a preplant application to control or suppress weeds prior to planting the following spring. Apply ZONE ASSIST to prior crop stubble or soil surface and allow moisture from rainfall or snow to move the product into the soil. DO NOT mechanically incorporate in the fall or spring as this will destroy the herbicide barrier and weed escapes are likely. DO NOT apply to frozen soils or to existing snow cover to prevent ZONE ASSIST runoff from rainfall or snow melt following application.

ZONE ASSIST may be tankmixed with other residual soil applied herbicides that are labeled for fall use on dry beans or dry peas. If weeds are emerged at the time of ZONE ASSIST application, include a burndown herbicide such as glyphosate or paraquat at the full-labeled rate as a tank mix partner. Alternatively, apply as a split application as needed.

Select the appropriate ZONE ASSIST rate from the table above within the correct soil type and organic matter range. When ZONE ASSIST is applied in the fall, use a mid to high rate within the rate range for the appropriate soil type and organic matter.

### Early Preplant and Preemergence (Spring Applications)

ZONE ASSIST may be applied preplant on the soil surface in the spring to control weeds in dry bean and dry peas. ZONE ASSIST may be applied early preplant prior to planting up to 3 days after planting as a preemergence soil application as long as seedlings have not broken the soil surface. Make sure the seed furrow is closed properly. ZONE ASSIST may be tankmixed with other preemergence herbicides labeled for dry bean and dry pea use.

When dry conditions persist following preemergence applications of ZONE ASSIST, make a shallow incorporation to incorporate and activate the herbicide. If weeds are emerged at the time of ZONE ASSIST application, use a burndown herbicide at the full-labeled rate in combination with ZONE ASSIST. Alternatively, apply as a split application as needed.

### Preplant Incorporated (PPI)

ZONE ASSIST may be applied as a PPI treatment in the spring prior to planting in conventional and reduced tillage dry bean and dry pea. DO NOT incorporate to depths greater than 2 inches to avoid crop injury. ZONE ASSIST use rates for PPI applications are similar to those used in preplant and preemergence applications. ZONE ASSIST may be tank mixed with other soil applied herbicide labeled for use in dry bean or dry pea. DO NOT tankmix ZONE ASSIST with other PPO chemistry herbicides. Observe all precautions, instructions, and rotational cropping guidelines of each product's label when tank mixing, including all references to potential carryover and crop injury warnings or restrictions.

### Weeds Controlled

When applied according to directions, ZONE ASSIST will provide control for the following weeds:

Kochia (ALS and Triazine Resistant)
Lambsquarters, common
Nightshade, eastern black
Pigweed, redroot
Pigweed, smooth

### Precautions

If ZONE ASSIST is applied to coarse textured soils, it is recommended that a minimum of 7 – 14 days elapse from application to planting to reduce the risk of crop response.

Rainfall (or irrigation) is required to activate preemergence and preplant incorporated applications of ZONE ASSIST. The amount of rainfall (or irrigation) needed to activate ZONE ASSIST following application depends on existing soil moisture, organic matter content and soil texture. Erratic weed control will result unless ZONE ASSIST is activated by 0.5 to 1.0 inch of rainfall (or irrigation). If 0.5 to 1.0 inch of rainfall (or irrigation) is not received within 7 to 10 days after ZONE ASSIST application, a shallow cultivation may be needed to aid in activation to obtain desired weed control. When sufficient moisture is received after dry conditions, ZONE ASSIST herbicide will control susceptible germinating weeds. Under extended periods of dry weather, adequate weed control may not be achieved.

Some adverse crop response may occur on:

- coarse textured soils with low organic matter (<1.5% and pH of 7.0 or higher)
- on highly eroded soils, hilltops
- or in areas of calcareous outcroppings.

ZONE ASSIST use rates should be reduced to 2.75 oz/A in areas listed above or DO NOT use.

Inadequate seed furrow closure or shallow planting (less than 1.0 inch) may result in undesirable crop response. As expected poor growing conditions such as:

- Excessive moisture
- Low temperatures

- Soil compaction
- Diseases

May also cause undesirable crop response.

The use directions are based on the interactive effects of ZONE ASSIST and the primary soil and environmental factors. These factors affect ZONE ASSIST activity on various weed species and crop tolerance. The user must observe the instructions and recommendations presented under Application Information, Soybean Application use directions, other sections of this label pertinent to the anticipated use.

When applying ZONE ASSIST with other registered herbicides, observe all precautions, instructions, limitations, application methods, timings and rotational cropping guidelines of each product's label, including all references to potential carryover and crop injury warnings or restrictions.

**NOTE: Not all cultivars have been tested with ZONE ASSIST. Consult University or Extension specialists for additional information on specific local varieties and any other pertinent local information.**

#### **Restrictions**

- DO NOT apply more than 6.0 fluids ounces (0.188 lb a.i./A) total per twelve month period.
- The twelve month period is considered to begin upon the initial ZONE ASSIST application.
- DO NOT apply more than one application per year.
- DO NOT apply after crop emerges or if seedling is close to the soil surface.
- DO NOT incorporate to depths greater than 2 inches.
- DO NOT apply to frozen soil or to existing snow cover to prevent ZONE ASSIST runoff from rainfall or snow melt following application.
- DO NOT use on soils classified as sand having less than 1% organic matter.

## **PEANUTS**

**Southeastern United States Only (AL, AR, GA, LA, MS, NC, SC, TN and VA)**

#### **Application**

Apply ZONE ASSIST alone and in combination with other registered peanut herbicides for the control of key broadleaf and grass weeds in peanuts. Follow information below for specific use directions.

Apply ZONE ASSIST as a PPI application to a depth of 2 inches or less up to 14 days before planting.

Incorporating ZONE ASSIST deeper than 2 inches can result in crop injury and/or inconsistent weed control. Also, ZONE ASSIST can be applied to the soil surface early preplant, at planting, or within 3 days after planting. Make sure seed furrows are properly closed when applying at planting time or before seed germination to prevent crop injury. When ZONE ASSIST is applied as a preplant application, minimize soil disturbance to maintain the herbicide barrier on the soil surface to maximize weed control. DO NOT apply ZONE ASSIST in "at-crack" applications or apply to expose peanut tissue. Such use can result in significant adverse crop response.

ZONE ASSIST will control many broadleaf and grass weed species. For optimum performance against grass weeds, a combination of ZONE ASSIST plus a grass herbicide labeled for peanuts is recommended if heavy grass pressure is anticipated. When exceptionally high weed populations are expected or when weeds not controlled by ZONE ASSIST are anticipated, the use of suitable post-emergent peanut herbicides is recommended. Apply ZONE ASSIST in a broadcast application using the appropriate rate from the ZONE ASSIST Use Rates for Peanuts table below. Apply using a minimum of 10 gallons of water per acre of finished spray. Adjust banded ZONE ASSIST application rates in proportion to the broadcast rate.

**Use Rates**

<b>ZONE ASSIST Use Rates for Peanuts</b>			
<b>Early Preplant, Preemergence, and Preplant Incorporation Applications</b>			
<b>Broadcast rate</b>	<b>Fluid Ounces of ZONE ASSIST per Acre</b>		
	<b>Soil Texture</b>		
<b>% Organic Matter</b>	<b>Coarse</b>	<b>Medium</b>	<b>Fine</b>
<1.5	3.0 – 3.5	3.5 – 4.0	4.0 – 5.0
1.5 – 3.0	3.5 – 4.0	4.0 – 5.0	5.0 – 6.0
>3.0	4.0 – 5.0	5.0 – 6.0	6.0 - 7.0
Coarse = Sand, Loamy Sand, Sandy Loam Medium = Sandy Clay Loam, Sandy Clay, Loam, Silt Loam, Silt Fine = Silty Clay Loam, Silty Clay, Clay Loam, Clay			
Use higher rates for soils with pH less than 7.0 and lower rates for soils with pH greater than 7.0 within the given rate ranges in this table.			
ZONE ASSIST may be tank mixed with other herbicides registered for use in peanuts. Observe all precautions, instructions and rotational cropping guidelines of each product's label when tank mixing, including all references to potential carryover and crop injury warnings or restrictions. It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.			

**Precautions**

When applying ZONE ASSIST with other registered herbicides, observe all precautions, instructions, limitations, application methods, timings and rotational cropping guidelines of each product's label, including all references to potential carryover and crop injury warnings or restrictions.

ZONE ASSIST is effective against a large number of economically important broadleaf and grass weeds. Under certain conditions, the same processes that ZONE ASSIST affects susceptible weeds may affect peanuts. These conditions include the following:

- High pH (7.0 and above)
- Cool weather
- Prolonged and excessive moisture
- Seedling diseases
- Other conditions that are unfavorable to vigorous crop growth, including poor agronomic practices

These effects in peanuts are often observed as stunting and discoloration. The duration of the adverse growing conditions will influence the length of time the crop is stunted and discolored. Stunting and discoloration should lessen and generally diminish with a return to normal growing conditions.

Thorough coverage is essential for postemergence control of small susceptible broadleaf weeds. Postemergence weed control will be poor, unless thorough coverage is achieved.

When used as directed, ZONE ASSIST will provide preemergence control of the following weeds:

<b>Common Name</b>	<b>Scientific Name</b>
<b>Broadleaves and Sedges</b>	
Amaranth, Palmer	<i>Amaranthus palmeri</i>
Amaranth, spiny	<i>Amaranthus spinosus</i>
Amaranth, spleen	<i>Amaranthus dubius</i>
Anoda, spurred	<i>Anoda cristata</i>
Cocklebur, common *	<i>Xanthium pennsylvanicum</i>
Copperleaf, hophornbeam	<i>Acalypha ostryeafolia</i>
Morningglory, entireleaf	<i>Ipomoea hederacea integruscula</i>

Morningglory, ivyleaf	<i>Ipomoea hederacea hederacea</i>
Morningglory, palmleaf	<i>Ipomoea wrightii</i>
Morningglory, purple	<i>Ipomoea turbinata</i>
Morningglory, red	<i>Ipomoea, coccinea L.</i>
Morningglory, scarlet	<i>Ipomoea coccinea</i>
Morningglory, tall	<i>Ipomoea, purpurea</i>
Nightshade, black	<i>Solanum nigrum</i>
Nightshade, Eastern black	<i>Solanum ptycanthum</i>
Nutsedge, purple	<i>Cyperus rotundus</i>
Nutsedge, yellow	<i>Cyperus esculentus</i>
Pigweed, redroot	<i>Amaranthus retroflexus</i>
Pigweed, smooth	<i>Amaranthus hybridus</i>
Purslane, common	<i>Portulaca oleracea</i>
Sedge, annual	<i>Cares, spp.</i>
Sida, prickly (Teaweed)	<i>Sida spinosa</i>
Smartweed, Pennsylvania (seedling)	<i>Polygonum pensylvanicum</i>
Spurge, prostrate	<i>Euphorbia humistrata</i>
Waterhemp, common	<i>Amaranthus rudis</i>
Waterhemp, tall	<i>Amaranthus tuberculatos</i>
*Will not control ALS resistant biotypes of these weed species.	
<b>Grasses – Suppression Only</b>	
When Zone Assist is used, for complete grass control, one of the following methods will be required:	
<ul style="list-style-type: none"> <li>- Tank mixing with grass soil applied herbicides</li> <li>- Postemergence grass herbicides</li> <li>- or mechanical cultivation</li> </ul>	
Barnyardgrass	<i>Echinochloa crus-galli</i>
Crabgrass, large	<i>Digitaria sanguinalis</i>
Crabgrass, small	<i>Digitaria ischaemum</i>
Crabgrass, southern	<i>Digitaria ciliaris</i>
Goosegrass	<i>Eleusine indica</i>
Panicum, fall*	<i>Panicum dichotomiflorum</i>
Panicum, Texas	<i>Panicum maximum</i>
Signalgrass, broadleaf	<i>Brachiaria platyphylla</i>
*Will not control ALS resistant biotypes of these weed species.	

**Restrictions**

- DO NOT apply ZONE ASSIST after crop emergence or at cracking or crop injury may occur.
- DO NOT apply ZONE ASSIST if seeding is close to soil surface or crop injury may occur.
- DO NOT apply after crop seed germination.
- DO NOT irrigate when peanuts are cracking.
- DO NOT apply more than 9.5 fluid ounces per acre of ZONE ASSIST per twelve-month period. This twelve-month period is considered to begin upon the initial ZONE ASSIST application.
- DO NOT use on soils classified as sand, which have less than 1% organic matter.
- DO NOT apply to frozen soils or existing snow cover to prevent ZONE ASSIST runoff from rain or snowmelt that may occur following application.

**SOYBEANS**

**Application Information**

ZONE ASSIST may be applied to control listed weeds in conventional and GMO soybean varieties when applied alone or in tankmix combinations.

**Timing**

ZONE ASSIST may be applied starting 45 days before planting up to 3 days after planting.

- To avoid soybean seedling injury:
  - o DO NOT apply ZONE ASSIST if soybean seedlings are emerging or cracking the soil.
  - o DO NOT apply more than 3 days after planting.
  - o ZONE ASSIST applied near or after crop emergence may cause severe injury to the crop.

If ZONE ASSIST is applied 30 days or more pre-plant, use the highest application rate within the rate range for the appropriate soil texture and organic matter. Application may be applied preemergence or preplant incorporated. Follow ZONE ASSIST application by labeled postemergence soybean herbicides for increased control of broadleaf and grass weeds. Always follow the most restrictive labeling when tankmixing.

**Use Rates**

<b>ZONE ASSIST Use Rates for Soybeans</b>			
<b>Spring Preplant, Preemergence, and Preplant Incorporation Applications</b>			
Broadcast rate	Fluid Ounces of ZONE ASSIST per Acre		
	Soil Texture		
% Organic Matter	Coarse	Medium	Fine
>1.0 – 2.0	6.0 – 8.0	8.0 – 10.0	10.0 – 12.0
2.0 – 4.0+	8.0 – 10.0	10.0 – 12.0	12.0
Coarse = Sand, Loamy Sand, Sandy Loam Medium = Sandy Clay Loam, Sandy Clay, Loam, Silt Loam, Silt Fine = Silty Clay Loam, Silty Clay, Clay Loam, Clay			
Use higher rates for soils with pH less than 7.0 and lower rates for soils with pH greater than 7.0 within the given rate ranges in this table.			
ZONE ASSIST may be tank mixed with other herbicides registered for use in soybeans. Observe all precautions, instructions and rotational cropping guidelines of each product's label when tank mixing, including all references to potential carryover and crop injury warnings or restrictions. It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.			

**Spring Preplant Applications**

If ZONE ASSIST is applied 30 days or more pre-plant, use the highest application rate within the rate range for the appropriate soil texture and organic matter.

**Preemergence Applications**

ZONE ASSIST may be applied at planting time through 3 days after planting, but before seed germination. May be applied alone or in tank mix combinations with other registered soybean herbicides. When applied in tank mix combinations, follow use directions, including application rates, precautions and restrictions of each product in the mixture. Make sure seed furrows are properly closed before applications.

**Preplant Incorporated Applications**

ZONE ASSIST may be applied alone or in tank mix combinations with other herbicides registered for Preplant Incorporated application on soybeans. For PPI applications, incorporation must be uniform and no deeper than 2 inches. Improper soil incorporation can result in erratic weed control and/or crop injury. When ZONE ASSIST is applied in tank mix combination with other soybean herbicides, follow incorporation directions for the tank mix partner(s). Follow use directions, including application rates, precautions and restrictions of each product in the tank mixture.

**Fall Applications**

EPA comments incorporated

ZONE ASSIST may be applied as a fall treatment to the stubble of harvested crops to burndown existing vegetation and for preemergence control of labeled weeds the following spring in no-till and conservation tillage production systems. If emerged weeds are present at time of ZONE ASSIST application apply with appropriate burndown herbicide(s) at labeled rate(s) for improved control of existing weeds. Make fall burndown treatments applications in a minimum of 15 gallons per acre to achieve adequate coverage of the weeds being treated. Increase gallonage where weed density is high or heavy crop residue levels are present. When making burndown applications to emerged weeds, include an adjuvant such as COC or MSO to the spray mixture to enhance the burndown activity of the application. Refer to product labels for use rates and instructions.

For ZONE ASSIST application rates refer to use rate table above.

**Reduced Rates - GMO Soybeans**

ZONE ASSIST may be used at reduced rates when used in conjunction with planned follow-up weed control applications with glyphosate and glufosinate based herbicide products labeled for use on the appropriate GMO soybean varieties. Follow all ZONE ASSIST application directions. May be applied before planting, at planting time or prior to seed germination. Make sure seed furrows are closed properly when applying at planting time or before seed germination in order avoid soybean seedling injury. Recommended postemergence treatments may include any product or combination of products labeled for use.

**Reduced Use Rates - GMO Soybeans**

<b>ZONE ASSIST Use Rate Table for Reduced Rates in GMO Soybeans Fall, Preplant, and Preemergence Applications</b>			
<b>Broadcast rate</b>	<b>Fluid Ounces of ZONE ASSIST per Acre</b>		
	<b>Soil Texture</b>		
<b>% Organic Matter</b>	<b>Coarse</b>	<b>Medium</b>	<b>Fine</b>
<1.0 – 2.0	4.0	4.0 – 5.0	5.0 – 6.0
2.0 – 4.0+	4.0 – 5.0	5.0 – 6.0	6.0
Coarse = Sand, Loamy Sand, Sandy Loam Medium = Sandy Clay Loam, Sandy Clay, Loam, Silt Loam, Silt Fine = Silty Clay Loam, Silty Clay, Clay Loam, Clay			
Use higher rates for soils with pH less than 7.0 and lower rates for soils with pH greater than 7.0 within the given rate ranges in this table.			
ZONE ASSIST may be tank mixed with other herbicides registered for use in soybeans. Observe all precautions, instructions and rotational cropping guidelines of each product's label when tank mixing, including all references to potential carryover and crop injury warnings or restrictions. It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.			

**Preplant Weed Suppression for GMO Soybeans**

ZONE ASSIST may be applied alone or in tank mixture with other registered soil applied soybean herbicides. This use pattern will reduce competition from weeds when followed by a planned postemergence application(s). Make application before planting, at plant or within 3 days after planting. Make sure seed furrows are closed properly when applying at planting time or before seed germination in order avoid soybean seedling injury. Recommended postemergence treatments include any product or combination of products labeled to control specific weeds remaining in the field - including any glyphosate or glufosinate based herbicide labeled for use on soybean varieties. When applications are made 30 days or more preplant, use higher application rates for the appropriate soil texture and organic matter. For herbicide tolerant or resistant weed species, use the highest labeled rate allowed of ZONE ASSIST according to soil type, pH, and organic matter parameters.

**Note: DO NOT use ZONE ASSIST after crop has emerged.**

### Precautions

Make sure seed furrows are closed properly when applying at planting time or before seed germination in order avoid soybean seedling injury.

The use directions are based on the interactive effects of ZONE ASSIST and the primary soil and environmental factors. These factors affect ZONE ASSIST activity on various weed species and crop tolerance. The user must observe the instructions and recommendations presented under Application Information, Soybean Application use directions, other sections of this label pertinent to the anticipated use.

When applying ZONE ASSIST with other registered herbicides, observe all precautions, instructions, limitations, application methods, timings and rotational cropping guidelines of each product's label, including all references to potential carryover and crop injury warnings or restrictions.

**NOTE: Not all cultivars have been tested with ZONE ASSIST. Consult University or Extension specialists for additional information on specific local varieties and any other pertinent local information.**

### Restrictions

- DO NOT incorporate deeper than 2 inches.
- DO NOT apply to frozen soils.
- DO NOT feed treated soybean forage, soybean hay or soybean straw to livestock.
- DO NOT apply ZONE ASSIST to soils classified as sand containing less than 1% organic matter.
- DO NOT apply more than 12.0 fluid ounces (0.374 pounds active ingredient) of ZONE ASSIST per acre per 12 (twelve) month period. This period is considered to begin with the initial sulfentrazone application.
- DO NOT apply this product through any type of irrigation system.
- DO NOT drain or flush equipment on or near desirable trees or plants.
- DO NOT contaminate any body of water including irrigation water that may be used on other crops.
- If soybeans are furrow irrigated, till the soil prior to planting winter wheat or barley. The beds should be broken up and the soil mixed with tillage equipment set to operate four (4) to six (6) inches deep.

## STORAGE AND DISPOSAL

**DO NOT** contaminate water, food or feed by storage or disposal or cleaning of equipment.

### Pesticide Storage and Disposal

Store product in original container only. Keep container closed when not in use, away from food or feed, fertilizer and other pesticides. Store in a cool dry place and avoid excess heat. DO NOT store below 32°F degrees. Wastes resulting from the use of this product that cannot be used should be disposed of in a landfill approved for pesticide disposal or in accordance with applicable Federal, State or local procedures. For more information contact your State Pesticide or Environmental Control Agency or the Hazardous Waste representative of the nearest EPA Regional Office for guidance.

### In Case of Spill

If spill occurs, avoid contact. Isolate area. Keep animals and unprotected persons out of area.

Confine spills by:

- Diking surrounding area and sweep up spillage.
- Dispose of in accordance with information given under Pesticide Disposal.
- Wash area with water.
- Absorb liquid with – sand, commercial clay or other absorbent.
- Sweep up and dispose of in an approved manner.

Place damaged container in a holding container and label as hazardous waste as per labeling regulations.

#### **Pesticide Disposal**

Pesticide waste are toxic. It is a violation of Federal law to improperly dispose of excess pesticide, spray mixture or rinsate. If these wastes cannot be disposed of according to directions on this label, contact your State Pesticide or Environmental Control Agency or Hazardous Waste representative at the nearest EPA Regional Office for guidance.

#### **Container Handling**

**Nonrefillable container - DO NOT** reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: (For containers greater than 5 gallons) Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. (For containers 5 gallons or less) Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Triple rinse (or equivalent). Then offer for recycling if available, or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

**Returnable/Refillable Containers** - Refill this container with ZONE ASSIST only. **DO NOT** reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents into application equipment or mix tank. Fill the container about 10% full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

### **CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY**

**NOTICE:** Read the entire Directions for Use and Conditions of Sale and Limitation of Warranty and Liability before buying or using this product. If the terms are not acceptable, return the product at once, unopened, and the purchase price will be refunded.

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